



Final Report: 3 July 2026

# Economic Assessment of Proposed Tauhei Solar Farm Extension for Fast-track Referral

Prepared for:  
**Harmony Energy New Zealand Limited**

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# 1. Executive Summary

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## Context

Harmony Energy New Zealand Limited (**HENZ**) seeks referral under the Fast-track Approvals Act 2024 (**FTAA**) for the Tauhei Solar Farm Extension (the **project**), a 50 MW AC extension to the consented Tauhei Solar Farm (**TSF**) in Te Aroha West, Matamata-Piako District, Waikato. The TSF (Stage 1) is a 150 MW AC utility-scale solar farm currently under construction, with commissioning scheduled for Q4 2026. The proposed extension (Stage 2) will be developed across approximately 95.6 hectares of land immediately adjacent to the TSF, currently operating as two dairy farms.

The extension will leverage substantial enabling infrastructure already consented and being constructed as part of Stage 1. Electricity generated by the extension will be transmitted via underground cabling to the existing on-site substation within the TSF, and from there to Transpower's Waihou Substation via existing overhead and underground lines. The Transpower grid connection has been sized from the outset to accommodate the combined 200 MW AC capacity of Stages 1 and 2, with the on-site transformer similarly sized to handle generation from both stages through a single point of connection. Ancillary infrastructure, including the switching station, operations and maintenance building, warehouse, and other supporting facilities, will continue to be housed within the TSF and shared between the two stages.

To assist with the referral application, this report assesses the project against the relevant referral criteria in section 22(2)(a) of the FTAA, with particular focus on whether it delivers significant regional and national economic benefits, supports climate change mitigation, and supports nationally and regionally significant infrastructure.

## Key Findings

The project would generate substantial one-off economic benefits in the region during construction. Over the estimated 15 to 18-month development period, it is projected to support approximately:

- \$21 million in GDP;
- \$11 million in wages and salaries; and
- 117 FTE-years of employment in total.

This is equivalent to an average of approximately 78 to 94 full-time positions sustained at any given time across the 15 to 18-month construction programme, including all upstream supply-chain employment.

Once operational, the extension will be operated in conjunction with the TSF and is expected to add up to one additional permanent on-site full-time equivalent role. The broader ongoing employment and economic activity sustained by the combined facility was addressed in the consent for the TSF, granted under the Covid-19 Fast Track Consenting Act 2020. This assessment focuses on the marginal economic effects attributable to the extension itself.

## Electricity Market and Emissions Benefits

The project's most significant contributions are national in scope. The extension's indicative P50 generation of 108.4 GWh per annum would:

- Lift national solar generation by 108.4 GWh per annum, from a 2024 base of approximately 595 GWh to approximately 703 GWh per annum – an **increase of approximately 18 percent**. This contribution is consistent with the step-change in renewable generation identified as necessary under all of MBIE's demand scenarios to meet projected electricity demand growth of 57 percent by 2050;
- On an indicative basis, avoid approximately **53,000 tonnes of CO<sub>2</sub>-equivalent emissions per year**, calculated by reference to the emissions intensity of gas-fired generation – the marginal thermal fuel in the New Zealand electricity system. This is equivalent to approximately 2.4 percent of New Zealand's total annual electricity generation emissions from gas;<sup>1</sup>
- Generate sufficient electricity to meet the annual needs of approximately **15,525 New Zealand households**, or to power approximately **69,700 electric vehicles** per year;
- Improve competition in the wholesale electricity market through the addition of low-marginal-cost generation, placing downward pressure on wholesale prices and moderating the rate of retail electricity price growth over time; and
- Enhance system flexibility and resilience by complementing existing hydro and wind generation, effectively retaining water in southern hydro lakes for deployment during evening peaks and winter periods, and reducing system exposure to gas supply and hydrology risks.

## Extension Efficiencies

A distinctive feature of the project is that, as an extension of a consented and largely constructed renewable generation asset, it delivers its benefits at materially lower incremental cost and environmental footprint than a comparable greenfield development. Because the Stage 1 grid connection and on-site transformer were sized from the outset for the combined 200 MW AC capacity, and because the Stage 2 land is immediately adjacent to Stage 1, the extension avoids a new grid connection, reduces site-wide enabling works, and shares a single operations crew across both stages. HENZ estimates that the extension avoids in the order of \$27 million in grid connection and high-voltage infrastructure costs that a standalone facility would otherwise incur. These efficiencies are detailed further in Section 9.2.

These efficiencies mean that, dollar-for-dollar, the extension delivers more renewable generation and more emissions displacement than a comparable standalone project – a direct economic and environmental benefit of the project.

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<sup>1</sup> The actual displacement mix will depend on system conditions at the time of generation; gas is adopted here as a transparent benchmark to contextualise the scale of the project's emissions benefit, rather than to imply that gas-fired generation is displaced one-for-one.

## Wider Economic Impacts

The project aligns strongly with the *National Policy Statement for Renewable Electricity Generation 2011* (Amended December 2025), the *Emissions Reduction Plan 2026-2030*, and the Government's *Going for Growth* agenda, particularly its pillars on competitive business settings, trade and investment, and infrastructure for growth.

It also represents a meaningful private-sector capital commitment in nationally significant renewable energy infrastructure, delivering positive investment signal effects in a sector that requires sustained large-scale investment to meet projected demand.

The project is being delivered by HENZ, an experienced developer that is currently constructing the TSF (Stage 1) – the very project that the extension expands. The on-the-ground track record of delivering Stage 1 provides strong confidence that the enabled generation capacity from Stage 2 will be realised in practice.

The main economic cost of the project – forgone rural production from the site's current dairy farming use – is modest in comparison to the scale of the energy and economic benefits enabled. If used in its current configuration, the site could sustain annual GDP of approximately \$0.8 million, employment for approximately three FTEs, and wages and salaries of approximately \$0.3 million. Continued agrivoltaic grazing within the panel arrays may further offset this opportunity cost.

## Conclusion

In our view, the project makes strong, positive contributions to several limbs of the relevant FTAA referral criteria. It would support nationally and regionally significant electricity infrastructure (and do so particularly efficiently, by leveraging consented infrastructure already being constructed), deliver significant regional and national economic benefits, and support climate change mitigation through substantial emissions displacement. The Fast-track process helps ensure that those benefits are realised sooner than traditional consenting pathways would otherwise allow.

On that basis, we consider the project meets criteria 22(2)(a)(ii), 22(2)(a)(iv), and 22(2)(a)(vii) of the FTAA, and we support it on economic grounds.

## 2. Introduction

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### 2.1. Context

Harmony Energy New Zealand Limited (**HENZ**) seeks referral under the Fast-track Approvals Act 2024 (**FTAA**) for the construction, operation, and (if necessary) decommissioning of the Tauhei Solar Farm Extension (the **project**), a 50 MW AC extension to the consented Tauhei Solar Farm (**TSF**) in Te Aroha West, Matamata-Piako District, Waikato. The TSF (Stage 1) is a 150 MW AC utility-scale solar farm currently under construction, with commissioning scheduled for Q4 2026, having been consented under the Covid-19 Fast Track Consenting Act 2020.

The proposed extension (Stage 2) will be located across three land parcels totalling approximately 95.6 hectares immediately south of the TSF. Electricity generated on the extension will be exported to the existing on-site substation within the TSF via underground cabling, and from there to the national grid via the existing connection to Transpower's Waihou Substation.

### 2.2. FTAA Referral Criteria & Report Scope

The purpose of the FTAA is to facilitate the consenting of large-scale projects expected to generate significant regional and/or national benefits. Under section 22 of the Act, projects may be referred to an expert panel for fast-track consenting where the Minister is satisfied that they meet the purpose of the Act.

When deciding whether to refer a project, the Minister may consider a range of factors set out in section 22(2)(a) of the Act. To that end, this report provides an economic assessment of the project against three of the referral criteria in section 22(2)(a), namely whether the project will:

- ii. Deliver new or support existing regionally or nationally significant infrastructure;
- iv. Deliver significant economic benefits; and
- vii. Support climate change mitigation, including the reduction of greenhouse gas emissions.

### 2.3. Approach to the Extension

A defining feature of this project is that it is an extension of, rather than a standalone addition to, an already consented and largely constructed renewable generation asset. This has two implications for the scope of this assessment:

- First, the ongoing operational benefits of the TSF were addressed in the original consent application for that project. Where this assessment refers to ongoing onsite economic activity, it focuses on the marginal effect of the extension – that is, the incremental change in employment and economic activity attributable to Stage 2, over and above the Stage 1 baseline.
- Second, the most distinctive feature of the project from an economic standpoint is its capital and operational efficiency relative to a standalone solar farm. Because the extension leverages

Stage 1's existing infrastructure (including a transformer sized at the outset for a combined 200 MW AC capacity), the marginal cost and environmental footprint per MW of new generation is lower than for a standalone equivalent. These extension efficiencies are addressed further below.

## 2.4. Region Adopted

This report adopts the Waikato region as the relevant “region” over which the significance of the project's economic benefits are assessed.

National-level effects, including those associated with electricity market participation, emissions displacement, and renewable generation capacity, are addressed at a national scale.

## 2.5. Structure of this Report

The remainder of this document is structured as follows:

- **Section 3** identifies the subject site and summarises the project.
- **Section 4** describes the methodology used to estimate the project's economic benefits.
- **Section 5** details the inputs and assumptions used to estimate the economic benefits.
- **Section 6** estimates the one-time impacts of the project's development.
- **Section 7** discusses the ongoing impacts of the extension.
- **Section 8** assesses the project's electricity market impacts.
- **Section 9** considers a range of wider economic impacts of the project.
- **Section 10** provides a conclusion and a checklist against the FTAA referral criteria.

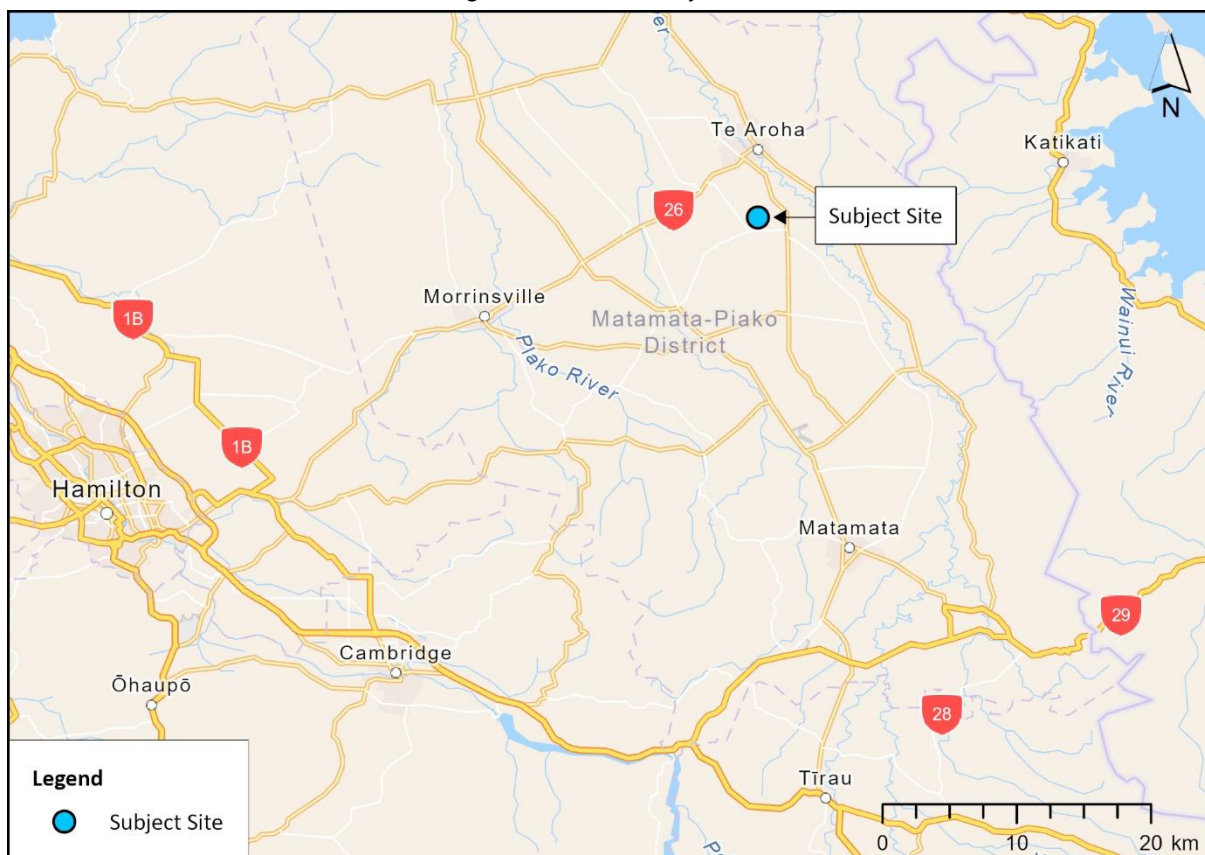
## 3. About the Project

This section identifies the subject site and provides indicative project parameters.

### 3.1. Site Location & Description

The subject site for the extension is located in a rural area at Te Aroha West in the Matamata-Piako District, Waikato. The site extends across two records of title and three land parcels totalling approximately 95.6 hectares, immediately south of the consented and largely constructed TSF. The site is bounded by Mikkelsen Road to the west, O'Donoghue Road through the centre (dividing the site into a western block and an eastern block), and Waihekau Road to the south. The location of the site is denoted by the blue dot in the map below.

Figure 1: Location of Subject Site



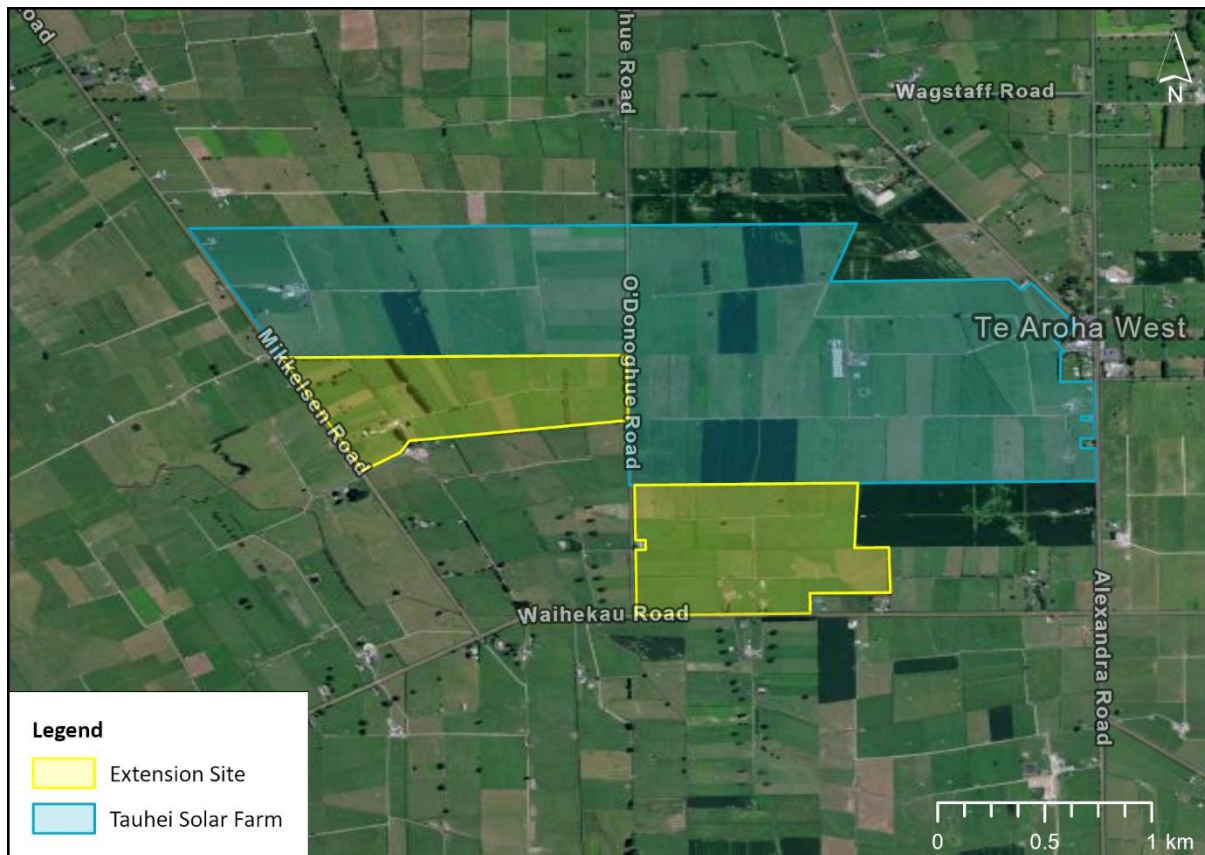
The site currently operates as two dairy farms under common ownership, with associated farm infrastructure including five dwellings, two dairy sheds (with associated effluent ponds and ancillary farm sheds), hedgerows, and exotic trees including three shelter belts on the western block.

### 3.2. Receiving Environment

The receiving environment is predominantly rural and is characterised by pastoral farming activities typical of the Waikato plains, including dairy farming, dry stock grazing, and other primary production. The TSF (Stage 1) lies immediately to the north of the extension site and is currently under construction. Stage 1 will provide the substation, switching station, transformer, O&M building, warehouse, and grid connection infrastructure that the extension will utilise.

Figure 2 shows a satellite view of the site in its immediate receiving environment.

Figure 2: Receiving Environment



### 3.3. Solar Irradiation at the Site

The site receives high levels of solar irradiation – a key determinant of solar farm efficiency. Solar irradiation refers to the amount of solar energy received at a given location over a specified period, commonly expressed as global horizontal irradiation (**GHI**) in kilowatt-hours per square metre per year (**kWh/m<sup>2</sup>/year**). It is one of the key physical determinants of electricity generation, alongside panel efficiency, system performance, and the area of panels installed. Sites with higher irradiation generally achieve higher capacity factors, meaning a greater share of their installed capacity is converted into electricity per year. Higher capacity factors increase annual generation and reduce the cost per MWh for a given capital investment.<sup>2</sup> Even modest differences in solar resource can therefore have a material effect on the commercial viability and long-term productivity of a solar farm.

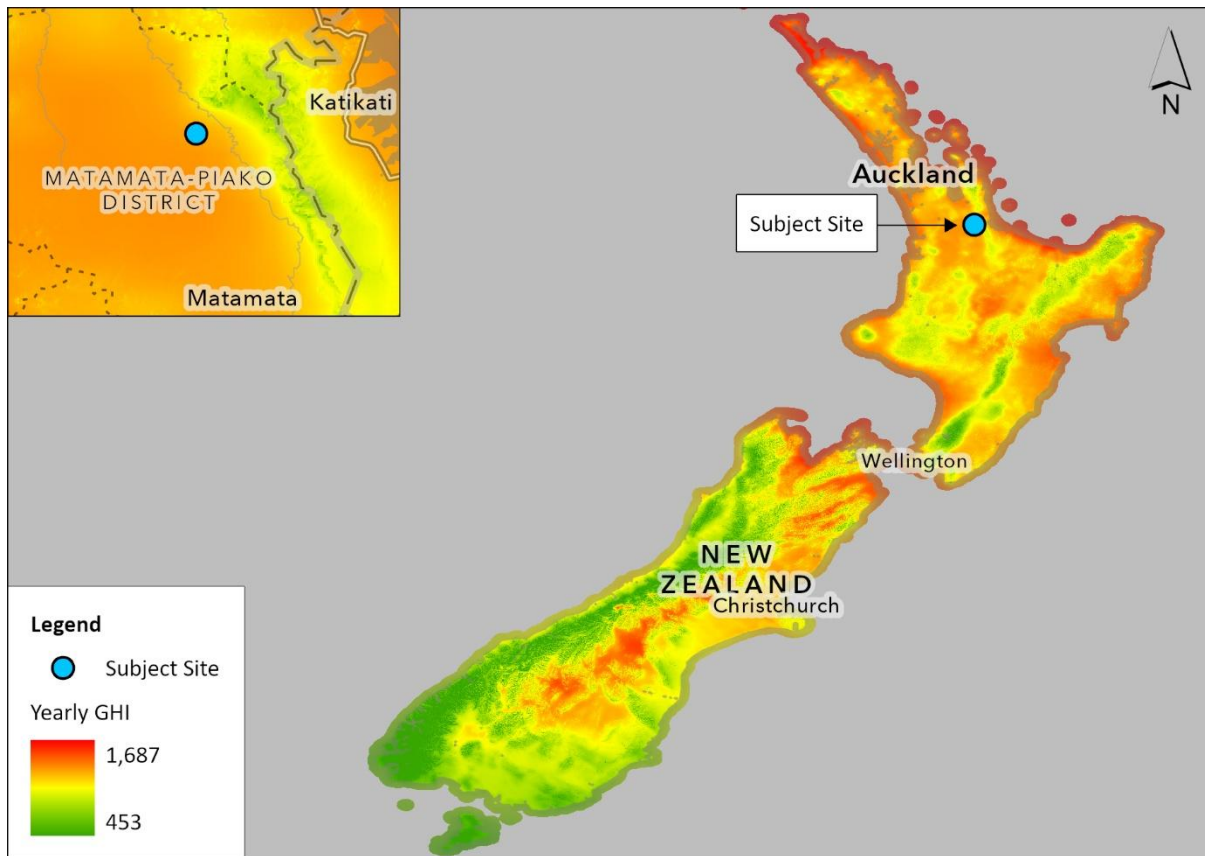
A desktop review of publicly available data from Solargis indicates that the site receives average annual GHI of approximately 1,445 kWh/m<sup>2</sup>/year.<sup>3</sup> As shown in Figure 3, the site is located within one of the higher irradiation zones in the country, where GHI levels range from approximately 450 to 1,690

<sup>2</sup> National Renewable Energy Laboratory (NREL). *PVWatts Calculator Documentation and Solar Resource Fundamentals*. Available here: <https://docs.nrel.gov/docs/fy14osti/62641.pdf>

<sup>3</sup> Available here: [www.solargis.com/resources/free-maps-and-gis-data?locality=new-zealand](http://www.solargis.com/resources/free-maps-and-gis-data?locality=new-zealand)

kWh/m<sup>2</sup>/year. Importantly, the suitability of the site for utility-scale solar generation has already been validated by the consenting and construction of the adjacent TSF.

Figure 3: Global Horizontal Irradiation (GHI) across New Zealand



### 3.4. Anticipated Generation

Based on current concept design, the Tauhei Solar Farm Extension is expected to have an installed capacity of 50 MW AC. The indicative P50 annual energy yield for the extension is approximately 108.4 GWh per year. This implies a capacity factor of approximately 25 percent on an AC basis,<sup>4</sup> consistent with expectations for a well-sited single-axis tracking or fixed-tilt solar installation in the Waikato region.

### 3.5. Indicative Site Layout

The concept design for the extension is being progressed in parallel with the referral application. At this stage, the indicative layout provides for photovoltaic array blocks across the developable parts of the western and eastern blocks, while excluding existing dwellings, dairy sheds, effluent ponds, and farm buildings. Panels may be installed on either a single-axis tracking system, a fixed-tilt system, or a combination of both, with final selection to be determined during detailed design.

<sup>4</sup> Calculated as  $108,400 \text{ MWh} \div (50 \text{ MW} \times 8,760 \text{ hours}) \approx 24.7\%$

The substation, switching station, transformer, operations and maintenance building, warehouse, battery energy storage system, and grid connection infrastructure will continue to be housed within the Stage 1 site to the north and shared between the two stages.

An overall site context plan of the project is provided in Figure 4 below.

Figure 4: Indicative Layout Plan



### 3.6. Agricultural Land Use (Agrivoltaics)

During the operation of the solar farm, agricultural use of the site can continue through targeted sheep grazing beneath and between the solar panel arrays. The panel layout will provide ample space for livestock to graze freely beneath the structures and for vehicles and machinery to operate between rows.

Agrivoltaic sheep grazing on the extension site will be permitted but not required under the easement arrangements with the underlying landowners. The final decision on whether and how to graze the site will rest with the landowners.

If pursued, continued grazing within the panel arrays would:

- Enable continued productive use of the rural land alongside electricity generation;
- Reduce the need for mechanical mowing and weed management within the array blocks;

- Provide a lower-intensity agricultural land use than the current dairy operation, with associated reductions in on-farm greenhouse gas emissions and nitrogen leaching; and
- Create micro-climate benefits for livestock, including shade and shelter from wind, sun, and frost, which can improve animal welfare and productivity outcomes.

While sheep grazing is the most appropriate and commercially proven agrivoltaic use for the site at this time, alternative agricultural activities may emerge over the course of the solar farm's operation as the agrivoltaic sector develops. Internationally, a range of crops are being trialled within operating solar farms, and HENZ and the landowners may explore complementary primary production opportunities as they become viable.

To adopt a conservative position, the economic modelling presented in this report excludes the economic contribution of agrivoltaic grazing. This ensures that the assessment does not rely on agricultural activity that may or may not be undertaken in practice. Where agrivoltaic grazing is pursued, the opportunity cost of the project in terms of forgone rural production would be partially offset.

## 4. Methodology

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This section describes the methodology used to estimate the project's economic impacts.

### 4.1. Introduction to Multiplier Analysis

Our assessment uses a widely known technique called “multiplier analysis” to estimate the GDP, jobs, and wages/salaries associated with one-time economic activity enabled by the project, plus the GDP, jobs, and wages/salaries lost via forgone rural production. Multiplier analysis is based on detailed matrices called “input-output” (IO) tables, which capture the interrelated supply chains that comprise each economy. Leveraging those relationships, multiplier analysis captures the overall impacts of a change in one sector on the economy, including both direct and supply-chain effects.

Consider the following example. Suppose a local construction company wins a new building contract. In addition to boosting its own workforce to complete the job, the company will also need to engage various subcontractors and to source building products from its own suppliers. Some of those suppliers, in turn, may then need to source various inputs from their suppliers, and so on. Multiplier analysis traces all these supply-chain interdependencies so that the wider economic effects of the new building work can be estimated, including flow-on effects.

Multiplier analysis is particularly useful for assessing construction projects, because such a large share of the work is typically done by third parties (i.e., subcontractors), not the main contractor. According to the latest official data, for every \$1.00 of GDP generated directly in building construction, another \$2.76 is generated in the industries that support it.<sup>5</sup> Similarly, for every FTE directly employed in building construction, another 2.82 FTEs are employed by supply chain industries.

### 4.2. Scope of Effects Estimated

The impacts derived via multiplier analysis typically comprise three parts, namely:

- **Direct effects** – which capture the economic impacts of entities directly engaged to complete the project (e.g., the main contractor); plus
- **Indirect effects** – which arise when the main contractor sources goods and services from their suppliers (i.e., subcontractors), who in turn may need to source goods and services from their own suppliers, and so on; and
- **Induced effects** – which occur when a share of the additional wages and salaries generated by the project (either directly or indirectly) are spent in the local/regional economy and therefore give rise to additional rounds of economic impacts.

These effects are typically measured in terms of:

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<sup>5</sup> As measured by the indirect effect, i.e., excluding induced effects.

- **Contributions to value-added (or GDP):** GDP measures the difference between a firm's outputs and the value of its inputs. It captures the value that a business adds to its own inputs to produce its outputs. From an accounting perspective, GDP equals a firm's earnings before interest, tax, depreciation, and amortisation (**EBITDA**), plus total wages and salaries paid.
- **The number of FTEs employed:** this is measured in terms of full-time equivalents, which convert part-time roles into their full-time equivalent.
- **Total wages and salaries paid to workers:** sometimes called 'household incomes.'

### 4.3. Limitations & Mitigation Strategy

Despite the intuitive appeal and widespread use of multiplier analysis, it does face some limitations. They include that it:

- **Assumes that businesses use inputs in fixed proportions:** i.e., without substituting towards more cost-effective options if/when they become available.
- **Ignores capacity constraints:** it assumes that labour, materials, and other inputs are always available when needed, which may be unrealistic in a tight economy.
- **Does not capture price effects:** multiplier models are fixed-price frameworks, which ignore cost inflation, wage pressures, and so on.

Consequently, multiplier analysis is useful for showing how spending ripples through an economy's supply chains, but it is not – on its face – a precise forecast of real-world net benefits. To help address these limitations and ensure that our analysis is as robust as possible, we adopted the following mitigation strategies and measures.

- **Strategy 1: Ignoring induced effects:** We ignore these because, in our view, much of the assumed spending would have likely occurred regardless of the project.
- **Strategy 2: Using the most up-to-date multipliers:** The multipliers used in this assessment were derived from National Accounts data for the year ended September 2025.
- **Strategy 3: Excluding imported components from the domestic expenditure base:** Utility-scale solar projects involve a high share of imported equipment (panels, inverters, trackers, transformers) which does not generate domestic economic activity. We exclude these imported components from the modelled expenditure base.
- **Strategy 4: Using applicant-provided cost estimates:** Our cost inputs are based on HENZ's own capital cost estimates for the extension. HENZ is an experienced utility-scale solar developer familiar with delivering comparable projects, including the adjacent TSF (Stage 1).

## 5. Development Inputs & Assumptions

### 5.1. Introduction

This section sets out the key inputs and assumptions used in our economic assessment, including the anticipated staging and timing of development, the principal components of the development, and the cost assumptions used in the multiplier analysis. Where possible, inputs have been drawn from project-specific data provided by HENZ, complemented with the latest available industry data to fill any gaps. All cost figures are expressed in current (2026) dollars unless otherwise stated.

We assume that 75 percent of estimated project benefits accrue to the Waikato region, with the balance accruing nationally. This share reflects the regional composition of the activities most directly engaged by the project. General construction work, civil and earthworks, locally supplied materials, and ongoing operational services are well-represented within the region's labour market and supply chain. However, more specialised inputs are typically sourced from larger centres elsewhere in New Zealand. The 75 percent assumption recognises both elements and is set deliberately on the conservative side to avoid overstating the regional share of benefits.

### 5.2. Staging & Timing

The Tauhei Solar Farm Extension is to be delivered as a single construction programme over an anticipated period of approximately 15 to 18 months. Utility-scale solar farms are typically constructed as integrated projects with overlapping work streams progressing concurrently across the site.

Provided Stage 1 commissioning proceeds as scheduled in Q4 2026, the extension's construction sequence is materially simplified relative to a standalone development, with no requirement for new grid connection works, on-site substation construction, switching station, or major O&M facilities.

### 5.3. Total Estimated Project Costs

The project team has advised that the total capital cost of the project is expected to be approximately \$70 million.<sup>6</sup> Of this, they have estimated that approximately 50 percent (or \$35 million) is to be spent domestically. The balance reflects imported components which are excluded from modelling as they do not generate domestic economic activity.

Table 1 brings together the estimated total development cost of the project. This expenditure forms the basis for the one-time economic impact assessment presented in the following section.

Table 1: Summary of Modelled Domestic Expenditure

| Cost Category                       | Estimated Cost (\$m) | Share of Cost |
|-------------------------------------|----------------------|---------------|
| Scheme finalisation                 | \$0.3                | 1%            |
| Site-wide enabling works            | \$4.2                | 12%           |
| Solar installation                  | \$30.5               | 87%           |
| <b>Total modelled domestic cost</b> | <b>\$35.0</b>        | <b>100%</b>   |

<sup>6</sup> The capital cost estimates provided by HENZ are high-level and have been informed by the applicant's involvement in other large-scale projects of a similar nature, which provides a basis for estimating both the overall and domestic components of expenditure.

## 6. One-Time Impacts of Development

This section estimates the one-time impacts of the project's construction phase.

### 6.1. Introduction

As outlined above, the project requires approximately \$35 million of domestic expenditure on scheme finalisation, site-wide enabling works, and solar installation. This section estimates the one-time economic impacts of this expenditure on GDP, employment, and wages and salaries.

### 6.2. Impacts on GDP, Jobs & Wages

Table 2 presents the estimated one-time economic impacts of the project's construction on the Waikato region, broken down by development component, for each of the three key impact metrics: employment, wages and salaries, and GDP.

Table 2: One-Time Economic Impacts of the Project

| Employment (FTE-years)  | Direct     | Indirect    | Total       |
|-------------------------|------------|-------------|-------------|
| Upfront/Site-wide Works | 6          | 8           | 14          |
| Solar Installation      | 27         | 76          | 103         |
| <b>Project Totals</b>   | <b>33</b>  | <b>84</b>   | <b>117</b>  |
|                         |            |             |             |
| Wages & Salaries (\$m)  | Direct     | Indirect    | Total       |
| Upfront/Site-wide Works | \$1        | \$1         | \$2         |
| Solar Installation      | \$2        | \$7         | \$9         |
| <b>Project Totals</b>   | <b>\$3</b> | <b>\$8</b>  | <b>\$11</b> |
|                         |            |             |             |
| GDP (\$m)               | Direct     | Indirect    | Total       |
| Upfront/Site-wide Works | \$1        | \$2         | \$3         |
| Solar Installation      | \$5        | \$13        | \$18        |
| <b>Project Totals</b>   | <b>\$6</b> | <b>\$15</b> | <b>\$21</b> |

To summarise:

- Overall, the project's construction is estimated to boost regional employment by approximately 117 FTE-years, generating approximately \$11 million in wages and salaries and lifting GDP by approximately \$21 million.
- This is equivalent to an average of approximately 78 to 94 full-time positions sustained at any given time across the 15 to 18-month programme, including all upstream supply-chain employment.
- Indirect effects dominate the project's one-time impacts, accounting for more than 70 percent of the total across all three metrics. This reflects the significant upstream demand that utility-scale solar construction generates for manufactured components, transport and logistics, professional and engineering services, and specialised electrical and civil trades.

### 6.3. Top 10 Industries by FTEs Employed

To better understand the likely impacts of the project's construction, Table 3 reveals the 10 industries likely to experience the greatest employment boosts. Those top 10 industries are expected to account for the vast majority of all full-time employment generated by the project, with the balance spread across numerous other sectors.

Table 3: Top 10 Industries by FTE-years Generated during Development

| Industries                                      | FTE-years  | Shares      |
|-------------------------------------------------|------------|-------------|
| Building Construction                           | 32         | 27%         |
| Construction Services                           | 26         | 22%         |
| Professional, Scientific and Technical Services | 9          | 8%          |
| Heavy and Civil Engineering Construction        | 7          | 6%          |
| Wholesale Trade                                 | 6          | 5%          |
| Fabricated Metal Product Manufacturing          | 5          | 4%          |
| Wood Product Manufacturing                      | 5          | 4%          |
| Administrative and Support Services             | 4          | 3%          |
| Non-Metallic Mineral Product Manufacturing      | 2          | 2%          |
| Petroleum and Coal Product Manufacturing        | 2          | 2%          |
| <b>Top 10 Subtotal</b>                          | <b>98</b>  | <b>84%</b>  |
|                                                 |            |             |
| All Other Industries                            | 19         | 16%         |
| <b>Total All Industries</b>                     | <b>117</b> | <b>100%</b> |

## 7. Ongoing Impacts of Future Uses

This section estimates the ongoing economic impacts generated by the project.

### 7.1. Introduction

The operational phase of the extension will form part of the integrated operations of the combined Tauhei Solar Farm (Stages 1 and 2), rather than a standalone operation. As noted above, this assessment focuses on the marginal effect of the extension over and above the consented Stage 1 baseline. The ongoing operational employment, supply-chain demand, and economic activity associated with TSF Stage 1 were addressed in the consent application for that project under the Covid-19 Fast Track Consenting Act 2020.

### 7.2. Marginal On-site Employment

HENZ has advised that the integrated operations of the combined facility are expected to add approximately one direct permanent full-time equivalent role attributable to the extension. The existing site management, administration, operations, technicians, and security personnel associated with TSF Stage 1 will service both stages, with monitoring, maintenance, vegetation management, panel cleaning, and electrical testing scaled marginally to reflect the additional generation footprint.

This represents one of the material economic advantages of an extension relative to a standalone solar farm. Two adjacent solar farms operated separately would each require their own management, security, maintenance, and supervisory resources. By integrating the extension into the TSF's existing operational framework, the project avoids substantial duplication of overhead costs – savings that are reflected both in lower lifecycle costs and in more efficient deployment of the regional renewable energy workforce.

For completeness, Table 4 presents the estimated annual onsite economic activity sustained by the project, including direct and indirect supply-chain effects.

Table 4: Estimated Annual Ongoing Economic Activity

| Impact                   | FTEs       | Wages (\$m)   | GDP (\$m)     |
|--------------------------|------------|---------------|---------------|
| Direct                   | 1.0        | \$0.17        | \$0.83        |
| Indirect                 | 3.3        | \$0.39        | \$1.22        |
| <b>Direct + Indirect</b> | <b>4.3</b> | <b>\$0.56</b> | <b>\$2.05</b> |

In summary, the project could support work for an additional four full-time equivalents annually, paying around \$0.6 million in salaries and wages and generating approximately \$2.1 million in GDP each year.

### 7.3. Contracted and Seasonal Services

In addition to permanent staff, the facility will generate ongoing demand for contracted and seasonal services. While the extension's contribution to this ongoing supply-chain demand is incremental rather than transformative, it is likely to be material in absolute terms over the 34-year operational life of the facility (consistent with the Stage 1 consent / the easement term).

These services are typically delivered by regionally based contractors and trades, providing ongoing work opportunities in the Waikato region's rural labour market.

## 7.4. Forgone Rural Production

The main economic cost of the project is foregoing the opportunity to put the site to alternative uses, such as rural production. For simplicity, and to maximise the estimated opportunity cost, we assume the *entire* subject site would otherwise have continued in dairy farming.<sup>7</sup>

Table 5 below presents our per-hectare rural production assumptions. Data on milksolids sold per hectare was sourced from NZ DairyBase for the Waikato region.<sup>8</sup> The assumed dairy output of \$10,631 per hectare reflects the latest 2026 farmgate price of \$9.7 per kg of milksolids (within a \$9.4-\$10.0 range).<sup>9</sup> Lower prices would reduce output per hectare, and vice versa.

Table 5: Assumed Rural Production per Hectare

| Economic Measure | Value per Ha |
|------------------|--------------|
| Output           | \$10,631     |
| GDP              | \$4,346      |
| Wages/salaries   | \$973        |
| FTEs             | 0.011        |

Applying these to the site's 95.6 hectares yields the following annual forgone rural production values, including direct and indirect supply-chain effects.

Table 6: Estimated Annual Forgone Rural Production

| Impact                   | FTEs       | Wages (\$m)   | GDP (\$m)     |
|--------------------------|------------|---------------|---------------|
| Direct                   | 1.1        | \$0.09        | \$0.42        |
| Indirect                 | 1.7        | \$0.16        | \$0.33        |
| <b>Direct + Indirect</b> | <b>2.8</b> | <b>\$0.25</b> | <b>\$0.75</b> |

Used solely for dairy farming, the site could hypothetically sustain approximately \$0.8 million in annual GDP, employment for approximately three FTEs, and approximately \$0.3 million in annual wages and salaries. These values are modest in the context of the construction activity, electricity market benefits, and emissions displacement enabled by the project, and similar in scale to the annual economic activity generated by the project's one additional onsite FTE.

Importantly, where agrivoltaic sheep grazing is pursued during the operational period, a significant portion of the forgone rural production would be retained alongside electricity generation, reducing the net opportunity cost further.

<sup>7</sup> The site's total land area is conservatively assumed to be farmable in its entirety, even though in practice not all of the land would be available or suitable for productive use due to existing dwellings, physical constraints, supporting infrastructure, and non-productive areas.

<sup>8</sup> Available here: <https://connect.dairynz.co.nz/EconTracker/>

<sup>9</sup> Available here: <https://www.fonterra.com/nz/en/investors/financial-reports-and-farmgate-milk-price.html>

## 8. Electricity Market Impacts

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This section assesses the electricity market and emissions benefits of the project. These are the benefits that are national in scope and that distinguish utility-scale solar generation from other forms of large-scale development.

### 8.1. Impacts on Renewable Energy Infrastructure

New Zealand's electricity system faces a substantial capacity challenge. The Ministry of Business, Innovation and Employment's (MBIE) latest projections (July 2024)<sup>10</sup> forecast that total electricity demand will increase by 57 percent by 2050, driven by population growth, electrification of transport and industrial processes, and new demand from data centres. Generation capacity will need to almost double to meet this growth and offset the retirement of ageing plants. Across all five of MBIE's demand scenarios, solar and wind account for the majority of the required new capacity, with solar capacity projected to increase more than 11-fold under the reference scenario, from 0.4 GW to 4.7 GW by 2050. Even under the most conservative scenario, solar capacity reaches 2.7 GW.

Accommodating this expansion will require significant additional land. International benchmarks indicate that utility-scale solar farms typically require approximately 2-3 hectares per megawatt of installed capacity,<sup>11</sup> which when applied to MBIE's reference scenario implies an additional 8,600 to 12,900 hectares nationally.<sup>12</sup> Regions with strong solar resources and proximity to existing grid infrastructure, including the Waikato, are well positioned to support this rollout.

Expanding renewable generation also addresses structural vulnerabilities in the electricity system. New Zealand remains exposed to hydro-lake variability, declining domestic gas reserves, and global fuel price volatility,<sup>13</sup> risks that were underscored during the 2024 winter period when constrained gas supply and low hydro storage drove sharp spikes in wholesale electricity prices.<sup>14</sup>

The Tauhei Solar Farm Extension, with an indicative P50 yield of 108.4 GWh per year, would represent a material addition to national solar capacity. Total solar generation in New Zealand was approximately 595 GWh in 2024 (the latest year for which MBIE annual electricity generation data is available), so the extension alone would lift national solar output to approximately 703 GWh per annum – an increase of approximately 18 percent relative to the 2024 baseline.

The relative size of this percentage reflects the small absolute base from which utility-scale solar in New Zealand is currently deployed. New Zealand has historically been a low-solar-deployment jurisdiction by international standards. The extension should be understood as part of the step-change

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<sup>10</sup> Available here: [www.mbie.govt.nz/assets/electricity-demand-and-generation-scenarios-report-2024.pdf](https://www.mbie.govt.nz/assets/electricity-demand-and-generation-scenarios-report-2024.pdf)

<sup>11</sup> Ong, S., Campbell, C., Denholm, P., Margolis, R., & Heath, G. *Land-Use Requirements for Solar Power Plants in the United States*. National Renewable Energy Laboratory. 2013.

<sup>12</sup> Calculated by applying an indicative land requirement of 2-3 hectares per MW of installed utility-scale solar capacity to MBIE's projected increase in solar capacity of 0.4 GW to 4.7 GW by 2050. This implies an additional 4.3 GW (4,300 MW) of solar capacity, requiring approximately 8,600 to 12,900 hectares nationally.

<sup>13</sup> Source: Ministry of Business, Innovation and Employment. *Electricity Demand and Generation Scenarios*. 2024.

<sup>14</sup> More information available here: <https://www.ea.govt.nz/news/eye-on-electricity/what-was-behind-high-wholesale-electricity-prices/>

in solar deployment that MBIE's projections require, particularly given that it leverages already-consented infrastructure to deliver new capacity quickly and efficiently.

## 8.2. Improved Competition in the Wholesale Electricity Market

While no single generation project will materially shift wholesale price formation in isolation, the project forms part of a wider pipeline of new renewable generation entering the New Zealand electricity market, and the cumulative effect of these additions is to enhance competition among wholesale generators and place downward pressure on wholesale prices over time. By adding low-marginal-cost generation to the grid, the project contributes to this transition by reducing collective reliance on higher-cost thermal peaking plants and broadening the diversity of the generation stack. This contribution holds whether the project's output is dispatched into the wholesale market or contracted under power purchase agreements (PPA): PPA-backed generation reduces the contracting party's residual demand on the wholesale market, and merchant generation bids directly into the spot market — in either case displacing higher-cost generation at the margin.

The Electricity Authority has emphasised that increasing generation capacity is critical for fostering competition and improving price outcomes, noting in a 2023 paper<sup>15</sup> that a more dynamic generation market is essential to counteract high and volatile electricity prices and that the shift toward renewables can reduce barriers for new entrants. The project aligns with the work of the Energy Competition Taskforce,<sup>16</sup> which is focused on enabling greater participation from independent generators and retailers.

## 8.3. Reduction in Rate of Retail Electricity Price Growth

The energy component of a residential electricity bill (the wholesale and generation cost together with the retailer's margin) makes up the majority of what households pay. The Electricity Authority estimates that distribution and transmission ("lines") charges account for just over 30 percent of the average power bill, with the balance comprising the energy and retail components.<sup>17</sup> Because the energy component passes through to retail tariffs over time, additional low-marginal-cost renewable capacity that moderates wholesale price growth flows through to slower growth in that component of household bills.

This effect is particularly relevant in the current environment. The Commerce Commission has signalled that the lines component of household bills has risen (from 1 April 2026) and is likely to keep rising until at least 2030, driven by inflation, higher financing costs, and increased network investment.<sup>18</sup> With one major component of the bill subject to sustained upward pressure, restraining growth in the energy component becomes more important to overall affordability. While we acknowledge the effect of any single project is incremental, it nevertheless operates in the same direction as the wider renewable pipeline: by adding generation that bids in at low marginal cost, the project contributes to containing the wholesale costs that retailers ultimately recover from

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<sup>15</sup> Available here: [www.ea.govt.nz/documents/3017/Decision\\_paper\\_promoting\\_competition\\_through\\_the\\_transition.pdf](https://www.ea.govt.nz/documents/3017/Decision_paper_promoting_competition_through_the_transition.pdf)

<sup>16</sup> A jointly established task force between the Electricity Authority and the Commerce Commission to investigate ways to improve the performance of the electricity market.

<sup>17</sup> [www.ea.govt.nz/your-power/bill/](https://www.ea.govt.nz/your-power/bill/)

<sup>18</sup> [www.comcom.govt.nz/regulated-industries/electricity-lines/understanding-why-changes-to-lines-charges-may-impact-your-electricity-bill/](https://www.comcom.govt.nz/regulated-industries/electricity-lines/understanding-why-changes-to-lines-charges-may-impact-your-electricity-bill/)

consumers. This is reinforced as electrification of transport, industrial heat, and household energy use lifts demand – additional low-cost renewable capacity helps absorb that growth without a proportionate increase in the energy component of retail prices.

## **8.4. Support for Well-functioning Urban Environments**

The NPS-UD defines well-functioning urban environments as those that, among other things, support reductions in greenhouse gas emissions and are resilient to the likely current and future effects of climate change. While the project is located in a rural area and does not involve the construction of housing or other urban activities, reliable and affordable electricity supply is a fundamental enabling input for households, businesses, and urban infrastructure. By increasing the availability of domestically generated renewable electricity at a time of declining gas supply and elevated wholesale prices, the project supports the ongoing functioning of urban environments while contributing to reductions in greenhouse gas emissions, consistent with Objective 8(a) and Policy 1(e) of the NPS-UD.

## 9. Wider Economic Impacts

This section considers a range of wider economic impacts of the project.

### 9.1. Displacement of Greenhouse Gas Emissions

One of the most significant long-term benefits of the project is the displacement of greenhouse gas emissions from fossil fuel electricity generation. To quantify this effect, we have developed an emissions displacement model that estimates the net emissions displaced by the solar farm on an annual basis.

#### Approach

The model is intended to provide an indicative measure of the project's emissions benefit, calculated by reference to the emissions intensity of New Zealand's gas-fired electricity generation. It does not assume that the project's output displaces gas-fired generation on a one-for-one basis. Rather, gas is adopted as a transparent benchmark for two reasons:

1. Gas is the marginal thermal fuel in the New Zealand electricity system, accounting for the majority (~80%) of electricity generation emissions; and
2. Gas peaker plants are the primary generation source that ramps up and down to cover shortfalls in renewable generation, such as during dry hydro years, and are therefore the generation type most directly affected at the margin by new renewable capacity entering the grid.

The actual displacement mix in any given period will depend on system conditions, the merit order at the time of generation, hydrology, and the broader pipeline of renewable additions; the figures presented in this section should accordingly be read as a contextualised estimate of the order of magnitude of the project's emissions benefit, not as a precise forecast.

The model also accounts for the lifecycle emissions of the solar farm itself (encompassing manufacturing, construction, and eventual decommissioning of panels and infrastructure) to arrive at a net displacement figure. The key inputs and results are summarised in Table 7 below.

Table 7: Emissions Displacement – Key Inputs and Results

| Parameter                                    | Unit                                 | Value         |
|----------------------------------------------|--------------------------------------|---------------|
| Annual generation (P50)                      | GWh p.a.                             | 108.4         |
| Emissions intensity - NZ gas generation      | g CO <sub>2</sub> -eq / kWh          | 537           |
| Gross emissions displaced (gas equivalent)   | tonnes CO <sub>2</sub> -eq p.a.      | 58,177        |
| Lifecycle emissions - solar PV (IPCC median) | g CO <sub>2</sub> -eq / kWh          | 48            |
| Annualised project lifecycle emissions       | tonnes CO <sub>2</sub> -eq p.a.      | 5,203         |
| <b>Net emissions displaced</b>               | <b>tonnes CO<sub>2</sub>-eq p.a.</b> | <b>52,974</b> |

The gas generation emissions intensity of approximately 537 g CO<sub>2</sub>-eq/kWh is derived from New Zealand's actual gas-fired electricity generation and associated emissions data, as published by MBIE.<sup>19</sup> The solar lifecycle emissions figure of 48 g CO<sub>2</sub>-eq/kWh is the median estimate from the IPCC's comprehensive review of lifecycle assessments for utility-scale crystalline silicon photovoltaic systems.<sup>20</sup>

## Results

On a net basis, the proposed extension is estimated to displace approximately **53,000 tonnes of CO<sub>2</sub>-equivalent emissions per year**. To contextualise the scale of this displacement:

- New Zealand's total electricity generation emissions from gas were approximately 2.20 million tonnes of CO<sub>2</sub>-equivalent in 2023. The project's net annual displacement therefore represents approximately **2.4 percent** of that total.<sup>21</sup>
- The project's annual generation of approximately 108 GWh would be sufficient to power approximately **69,700 electric vehicles** per year, based on average New Zealand fleet energy consumption of approximately 154 Wh/km and average annual distance travelled of approximately 10,110 km per vehicle.<sup>22 23</sup>
- Equivalently, the generation would meet the annual electricity needs of approximately **15,525 New Zealand households**, based on average household consumption of approximately 6,983 kWh per year.<sup>24</sup>

The net displacement figure reflects electricity-sector emissions only and does not account for changes in on-site agricultural emissions. As the site's current use generates ongoing emissions through livestock methane, fertiliser application, and farm machinery use, transitioning the site to solar generation – whether panels alone or in combination with lower-intensity agrivoltaic sheep grazing – would reduce or eliminate these emissions relative to the status quo. The figures above should therefore be regarded as lower-bound estimates of the project's total emissions benefit, with further reductions arising from the change in land use that have not been quantified for the referral.

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<sup>19</sup> Gas emissions intensity calculated from MBIE Electricity Statistics and Energy Sector Greenhouse Gas Emissions data. Available here: [www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-statistics-and-modelling/energy-statistics](https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-statistics-and-modelling/energy-statistics)

<sup>20</sup> Source: *Solar lifecycle emissions from IPCC AR5 Working Group III, Annex III, Table A.III.2, median estimate for utility-scale crystalline silicon PV.*

<sup>21</sup> Source: MBIE, *Energy Sector Greenhouse Gas Emissions* (YE 2023) and *Electricity Statistics* (YE 2023). Available at: [www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-statistics-and-modelling/energy-statistics/new-zealand-energy-sector-greenhouse-gas-emissions](https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-statistics-and-modelling/energy-statistics/new-zealand-energy-sector-greenhouse-gas-emissions)

<sup>22</sup> Source: EVDB.nz, average WLTP energy consumption across the 50 most popular EV models in New Zealand (~154 Wh/km fleet average, 2026). Available at: <https://evdb.nz/efficient>

<sup>23</sup> Source: Flip the Fleet, average monthly distance data (year ended February 2026), annualised to approximately 10,110 km per vehicle. Available at: <https://flipthefleet.org/>

<sup>24</sup> Source: Electricity Authority / EMI, average New Zealand household electricity consumption of approximately 6,983 kWh per annum (YE December 2025). Available at: <https://www.emi.ea.govt.nz/r/vvb0r>

## 9.2. Extension Efficiencies

A distinctive feature of this project is that it delivers new renewable generation capacity at materially lower incremental cost than a standalone development would require. These efficiencies are themselves an economic benefit of the project.

HENZ has identified three principal sources of efficiency:

1. **Grid connection.** The Transpower grid connection at Waihou GXP was sized from the outset to accommodate the combined 200 MW AC capacity of Stages 1 and 2, and the on-site transformer was sized accordingly. A standalone 50 MW AC solar farm would require its own new grid connection and supporting high-voltage infrastructure. On HENZ's conservative estimates, these costs comprise approximately \$4 million in grid (Transpower) upgrades, approximately \$10 million for the grid connection cable, and approximately \$13 million for high-voltage infrastructure (transformer, substation, and switching station) – in the order of \$27 million in total.
2. **Shared land and site infrastructure.** Because the extension land is immediately adjacent to Stage 1, the marginal investment in fencing, internal roading, security infrastructure, and other site-wide enabling works is materially lower than for a standalone project. This shared infrastructure also includes site facilities such as the operations and maintenance building, warehouse, and water tanks which need only be provided once across the combined facility.
3. **Operations and maintenance.** Operating costs across the combined 200 MW AC facility will be materially lower than the sum of operating costs for two separate facilities. A single combined operations crew, single security regime, single set of monitoring systems, and single inventory of spare parts can service both stages. Over the 34-year operational life, these ongoing operating efficiencies are expected to be worth several million dollars.

Collectively, these efficiencies mean that the project delivers more renewable generation, more emissions displacement, and more contribution to the national renewable build-out per dollar of capital invested than would otherwise be achievable.

## 9.3. Alignment with National and Regional Strategies

The project is strongly aligned with the Government's strategic direction for decarbonisation, energy security, and renewable generation. The *Emissions Reduction Plan 2026-2030*<sup>25</sup> identifies electricity generation as one of four priority areas for emissions reduction, recognising that decarbonising the electricity system is critical to achieving New Zealand's net zero by 2050 target, and commits to increasing the share of renewable generation while phasing down fossil fuels.

The project also gives effect to the *National Policy Statement for Renewable Electricity Generation 2011* (Amended December 2025) (**NPS-REG**),<sup>26</sup> which recognises the national significance of renewable electricity generation, including solar, and requires decision-makers to provide for its

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<sup>25</sup> Available here: <https://environment.govt.nz/publications/new-zealands-second-emissions-reduction-plan/>

<sup>26</sup> Available here: <https://environment.govt.nz/publications/national-policy-statement-for-renewable-electricity-generation/>

development, operation, maintenance, and *upgrading*. The NPS-REG's explicit recognition of upgrading existing renewable assets is particularly relevant to an extension project of this nature, which represents an efficient incremental addition to a consented and largely constructed renewable facility.

While the *New Zealand Energy Strategy* is still under development, MBIE has made clear that the transition to a modern, secure, and affordable energy system will depend on large-scale investment in renewable generation, particularly wind and solar.<sup>27</sup>

The project also aligns with the Government's *Going for Growth* agenda (launched in early 2025), particularly its pillars on competitive business settings (through additional low-marginal-cost generation), promoting trade and investment (through continued private-sector capital commitment to renewable energy infrastructure), and investing in infrastructure for growth.

At the regional level, the project aligns with Waikato Regional Council's strategic priorities for renewable energy development and climate change mitigation. At the district level, the Matamata-Piako District is well positioned to accommodate utility-scale solar development given its flat topography, high solar irradiation, and proximity to existing electricity transmission infrastructure. The project builds on the precedent and infrastructure provided by the consented TSF (Stage 1), which itself was determined to be of regional and national significance through its Covid-19 Fast-track consenting pathway.

## 9.4. Ongoing Employment Impacts

While the extension is estimated to add only one permanent FTE to the integrated facility, the broader ongoing employment effects of the combined 200 MW AC operation are likely to be meaningful. Operational roles such as technicians, operators, and maintenance personnel involve on-the-job training in photovoltaic systems, electrical infrastructure, and remote monitoring, contributing over time to specialised technical capability within the regional workforce and providing practical pathways for workers to enter the renewable energy sector.

Unlike construction activity, which is temporary, operational roles persist throughout the project's operating life of 34 years (with the potential for repowering beyond that), providing stable employment in a predominantly rural labour market where employment can otherwise be strongly influenced by seasonal agricultural cycles. The integrated facility will also support local service providers through ongoing demand for vegetation management, panel cleaning, electrical testing, and civil maintenance, typically delivered by locally based contractors and trades, together with broader supply-chain demand for monitoring systems, spare parts, consumables, and professional services.

## 9.5. Project Acceleration

The project will progress considerably faster via the FTAA process than would otherwise be the case. Absent Fast-track approval, it would likely be subjected to a protracted consent process involving multiple consents at both district and regional levels, public notification, hearings, and the potential

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<sup>27</sup> Available here: [www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-strategies-for-new-zealand/new-zealand-energy-strategy](https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-strategies-for-new-zealand/new-zealand-energy-strategy)

for Environment Court appeals. The FTAA (as strengthened by the Fast-track Approvals Amendment Act 2025) is specifically designed to accelerate nationally and regionally significant projects, bringing forward the economic activity, emissions displacement, and electricity market benefits discussed in this report.

Acceleration is particularly significant in the context of this project because the extension is designed to integrate with Stage 1 infrastructure that is currently under construction. The earlier the extension can be approved and constructed, the more efficiently it can leverage the construction workforce, project management capability, supply-chain relationships, and on-site momentum already established for Stage 1. Delays would risk losing these efficiencies and forcing the extension to be developed as a more standalone project, with correspondingly higher costs and lower national benefit.

## **9.6. Feasibility and Delivery of Enabled Capacity**

In addition, the project is being advanced by HENZ, the developer currently constructing Stage 1 of the TSF. Developer capability is relevant to energy infrastructure outcomes because consented generation capacity only translates into actual electricity supply if it is delivered, commissioned, and connected to the network in a timely and coordinated manner.

HENZ's track record on Stage 1 – proceeding from Fast-track consent through to active construction and scheduled Q4 2026 commissioning – provides direct, on-the-ground evidence of delivery capability for this specific site, this specific grid connection, and this specific infrastructure approach. There are few clearer demonstrations of “feasibility and delivery of enabled capacity” available than an applicant that is, at the time of referral, physically constructing the precursor project to the one under assessment.

This reduces the risk of delays or under-delivery and increases confidence that the generation capacity and associated benefits enabled by the project will be realised in practice.

## **9.7. Investment Signal Effects**

Finally, the development will provide a clear signal of confidence in the region's medium- to long-term economic outlook and in New Zealand's renewable energy investment environment. Large, capital-intensive infrastructure projects require extensive due diligence, long investment horizons, and confidence in future demand, regulatory settings, and grid access. Their delivery signals to other investors that underlying conditions are sufficiently robust to support further activity, which may help spur or bring forward other developments in the renewable energy sector.

# 10. Conclusion and Checklist

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## 10.1. Conclusion

The Tauhei Solar Farm Extension is a 50 MW AC utility-scale solar generation project that extends a consented and largely constructed renewable generation facility. With an indicative P50 generation of 108.4 GWh per year, the project represents a meaningful addition to New Zealand's renewable generation capacity at a time when the electricity system requires a step-change increase in solar generation to meet projected demand growth.

The economic evidence presented in this report confirms that the project delivers significant regional and national benefits. In summary:

- During the 15 to 18-month construction period, the project is estimated to support approximately 117 FTE-years of employment, generate approximately \$11 million in wages and salaries, and contribute approximately \$21 million in GDP, primarily within the Waikato region. This is equivalent to an average of approximately 78 to 94 full-time positions sustained at any given time across the construction programme;
- The extension will integrate into the operations of the combined TSF facility. The broader ongoing operational benefits of the combined facility were addressed in the substantive consent for Stage 1, granted under the Covid-19 Fast-track Consenting Act 2020;
- The project will displace approximately 53,000 tonnes of CO<sub>2</sub>-equivalent emissions per year – equivalent to approximately 2.4 percent of New Zealand's total annual electricity generation emissions from gas – supporting New Zealand's statutory climate objectives and the *Emissions Reduction Plan 2026-2030*;
- The project will lift national solar generation by approximately 18 percent relative to the 2024 baseline, generate sufficient electricity to meet the annual needs of approximately 15,525 New Zealand households or to power approximately 69,700 electric vehicles, enhance competition in the wholesale electricity market, improve the flexibility and resilience of the national electricity system through complementarity with hydro and wind generation, and contribute to moderating the rate of retail electricity price growth over time;
- The project delivers these benefits at materially lower incremental cost than a standalone solar farm would require, by leveraging the consented grid connection, infrastructure, and operational workforce already being established for Stage 1. Avoided grid connection and high-voltage infrastructure costs are conservatively estimated at around \$27 million and lifecycle operating efficiencies are expected to be worth several million dollars over the project's operational life;
- The project is strongly aligned with the NPS-REG (including its explicit recognition of upgrading existing renewable assets), the *Emissions Reduction Plan 2026-2030*, and the Government's *Going for Growth* agenda; and

- The project is being delivered by HENZ, the developer currently constructing the precursor Stage 1, providing direct, on-the-ground evidence of delivery capability for this specific site and infrastructure approach.

The main economic cost – forgone rural production from the site’s current dairy use – is modest in comparison to the scale of the energy and economic benefits enabled. Forgone rural production is estimated to support annual GDP of approximately \$0.8 million, employment for approximately three FTEs, and annual wages and salaries of approximately \$0.3 million. This opportunity cost may be partially offset by targeted agrivoltaic grazing during the operational period.

The Fast-track process helps ensure that these benefits are realised sooner than traditional consenting pathways would otherwise allow, and that the extension can take advantage of the construction momentum and infrastructure being established for Stage 1. On that basis, we consider the project meets criteria 22(2)(a)(ii), 22(2)(a)(iv), and 22(2)(a)(vii) of the FTAA, and we support it on economic grounds.

## 10.2. FTAA Criteria Checklist

The following table provides a signpost to where each of the relevant criteria listed in Section 22(2)(a) of the FTAA are addressed in this report.

Table 8: Assessment Against Section 22(2)(a) Criteria of FTAA

| Ref    | Criterion                                                                                                 | Signpost          |
|--------|-----------------------------------------------------------------------------------------------------------|-------------------|
| (i)    | Identified as a priority project in government plans or strategies                                        | n/a               |
| (ii)   | Delivers new or supports existing regionally/nationally significant infrastructure                        | Sections 3, 8 & 9 |
| (iii)  | Increases housing supply, addresses housing needs, or contributes to a well-functioning urban environment | Section 8.4       |
| (iv)   | Delivers significant economic benefits                                                                    | Sections 6 – 9    |
| (v)    | Supports primary industries, including aquaculture                                                        | n/a               |
| (vi)   | Supports development of natural resources, including minerals and petroleum                               | n/a               |
| (vii)  | Supports climate change mitigation (e.g. reducing greenhouse gas emissions)                               | Section 9.1       |
| (viii) | Supports climate change adaptation, reduces risk from natural hazards                                     | n/a               |
| (ix)   | Addresses significant environmental issues                                                                | n/a               |
| (x)    | Consistent with local/regional planning documents and spatial strategies                                  | Section 9.3       |